

ACCESSION NR: AT4010699

ENCLOSURE: 02

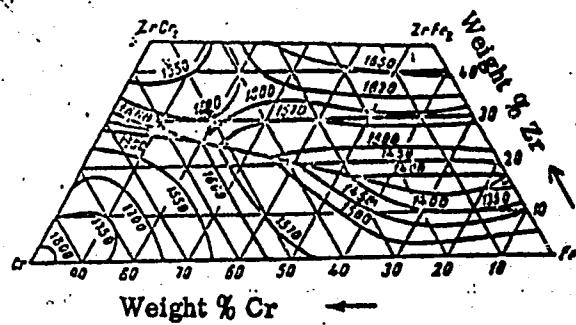


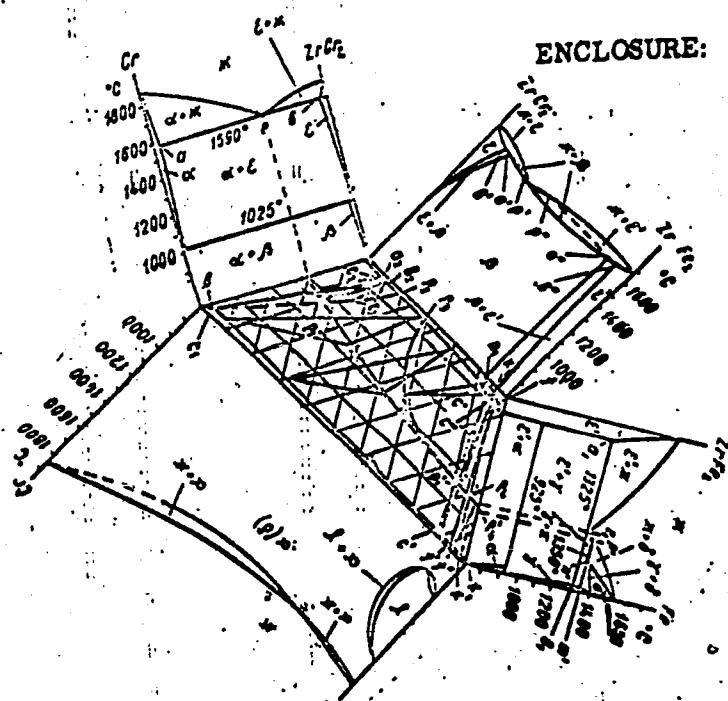
Fig. 2. The horizontal projection of the surface liquidus of the system Cr-ZrCr<sub>2</sub>-ZrFe<sub>2</sub>-Fe

Card 5/7

ACCESSION NR: AT4010699

ENCLOSURE: 03

Fig. 3. Diagram of the metastable equilibria of the ternary system Cr-ZrCr<sub>2</sub>-ZrFe<sub>2</sub>-Fe.

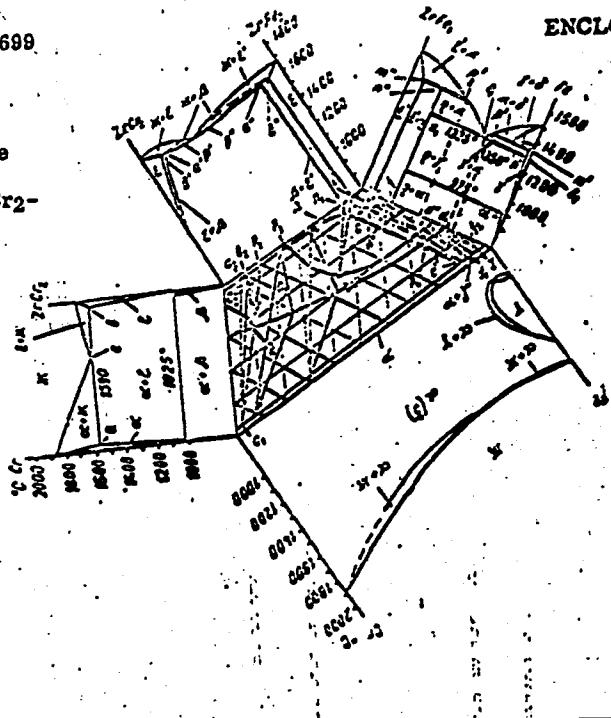


Card 6/7

ACCESSION NR: AT4010698

ENCLOSURE: 04

Fig. 4. Diagram of the stable equilibria of the ternary system Cr-ZrCr<sub>2</sub>-ZrFe<sub>2</sub>-Fe



Card 7/7

SVECHNIKOV, V.N.; PAN, V.M.; SPEKTOR, A.TS.

Intermediate phases in the iron - zirconium system. Zhur.neorg.khim.  
8 no.9:2118-2123 S '63. (MIRA 16:10)

1. Institut metallofiziki AN SSSR.

L 13803-65 EWT(m)/EPF(n)-2/EPR/EPA(bb)-2/EMP(b) Ps-4/Pu-4 ASD(f)-2/ASD(m)-3  
ACCESSION NR: AT4046825 JD/JG/MLK S/0000/64/000/000/0104/0107

AUTHOR: Svechnikov, V. N.; Shurin, A. K.; Dmitriyeva, G. P. 3

TITLE: Investigation of alloys of the Nb-NbCr<sub>2</sub>-NbAl<sub>3</sub> system

SOURCE: AN SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov.  
Issledovaniya stalej i splavov (Studies on steels and alloys). Moscow,  
Izd-vo Nauka, 1964, 104-107

TOPIC TAGS: niobium base alloy, niobium chromium aluminum system,  
niobium aluminum intermetallic compound, niobium chromium inter-  
metallic compound, intermetallic compound niobium alloy, alloy hot  
hardness, alloy oxidation rate

ABSTRACT: Arc-melted Nb-Al, Nb-Cr, and Nb-Cr-Al alloys were annealed  
at 1500C for 17-30 hr or at 1200C for 105 hr in an argon atmosphere,  
and tested for hot hardness in a vacuum at temperatures up to 900C and  
for oxidation in air at 1100C. At all test temperatures the hardness  
of Nb-Al alloys increased gradually with the addition of up to 5% Al  
and increased sharply with further increases in Al content. An al-  
most linear increase in hardness was observed in Nb-Cr  
alloy containing up to 17% Cr. The hardness of  
Card 1/3.

L 13803-65

ACCESSION NR: AT4046825

Nb-Cr-Al alloys containing more than 50% intermetallic compounds in the structure also increases appreciably. The oxidation rate of unalloyed Nb and Cr was 83 and 0.59 mg/cm<sup>2</sup>·hr, respectively. Chromium additions (up to 8-10%) decrease the oxidation rate of Nb-Cr alloys more sharply than do subsequent additions. The oxidation rate in these alloys decreases until NbCr<sub>2</sub> starts forming. Fig. 1 of the Enclosure shows the effect of Al on the oxidation rate of Nb-Cr alloys. The oxidation rate of an Nb-Al<sub>3</sub> compound (0.84 mg/cm<sup>2</sup>·hr) is comparable to that of Cr. Alloys of the NbCr<sub>2</sub>-NbAl<sub>3</sub> section have good oxidation resistance. Thus the Nb-Cr-Al system has several Nb-base alloys whose oxidation rate is below that of adjacent alloys containing more or less Al but with the same Cr content. Alloys containing 5-6 wt% Al or 4-7 wt% Cr have their lowest (5 mg/cm<sup>2</sup>·hr) oxidation rate at 1100°C, i.e., 16 times below that of an unalloyed Nb. These alloys have a hardness of 400-470 and 290-350 kg/mm<sup>2</sup> at 20 and 900°C, respectively. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

Card 2/4

L 13803-65  
ACCESSION NR: AT4046825

SUBMITTED: 16Jun64

ENCL: 01

SUB CODE: MM

NO REF SOV: 011

OTHER: 008

ATD PRESS: 3131

Card 3/4

ACCESSION NR: AT4046825

L 1303-65

ENCLOSURE: 01

O

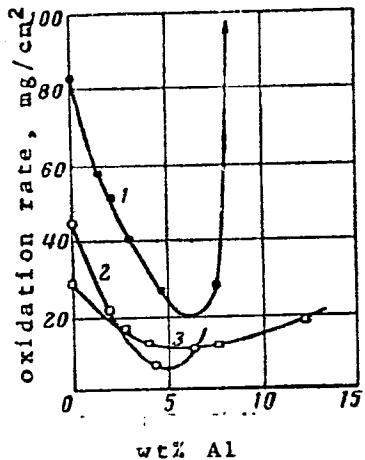


Fig. 1. Effect of aluminum on the oxidation rate of niobium-chromium alloys

1 - Binary Nb-Al alloy; 2 - Nb-Al alloy with 4.5-5% Cr; 3 - Nb-Al alloys with 12-14% Cr.

Card 4 / 4

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001654110012-0

SVECHNIKOV, V.N.; KOCHERZHINSKIY, Yu.A.; LATYSHEVA, V.I.

Constitutional diagrams of the systems NbCr<sub>2</sub> - TiCr<sub>2</sub> and NbCr<sub>2</sub> - Ti.  
Sbor.nauch.trud. Inst. metallofiz. AN URSR no.19:192-195 '64.  
(MIRA 18:5)

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001654110012-0"

SVERCHNIKOV, V.N.; PAN, V.M.; KOROBYNTKOVA, V.G.

Constitutional diagram of the system niobium - nickel. Sber.nauch.  
trud. Inst. metallofiz. Akad. Nauk SSSR no.19:196-205 1964.

(MIRA 18:5)

SVECHNIKOV, V.N.; SHURIN, A.K.; DMITRIYEVA, G.P.

Phase equilibrium diagram of the system Hf - Ta in the solid state.  
Sbor. nauch. trud. Inst. metallofiz. AN URSR no. 19:206-211 '64.  
(MIRA 18:5)

SVECHNIKOV, V.N.; KOCHERZHINSKIY, Yu.A.; YUPKO, I.M.

Chromium - silicon diagram. Sbor.nauch.trud. Inst. metallofiz. AN  
URSS no.19:212-218 '64. (MIRA 18:5)

SVECHNIKOV, V.N.; KOCHERZHINSKIY, Yu.A.; YUPKO, L.M.

Structure and properties of alloys in the system molybdenum -  
silicon - chromium. Sbor. nauch. trud. Inst. metallofiz. AN  
URSR no.20:94-107 '64. (MIRA 18:5)

L 41560-65 EWT(m)/EWP(w)/EPF(c)/EPF(n)-2/EWP(v)/T/EWP(t)/EWP(b)/EWA(c) 39  
Pu-4 IJP(c) JD/JG/WB 31  
ACCESSION NR: AT5008875 S/2601/64/000/020/0108/0124 B+1

AUTHOR: Alfintseva, R. A.; Dmitriyeva, G. P.; Korobeynikova, V. G.;  
Pan, V. M.; Shurin, A. K.; Svechnikov, V. N. (Academician An UkrSSR)

TITLE: Investigation of chromium-iron-molybdenum and chromium-iron-tungsten alloys

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh  
trudov, no. 20, 1964. Voprosy fiziki metallov i metallovedeniya  
(Problems in the physics of metals and physical metallurgy), 108-124

TOPIC TAGS: chromium alloy, iron containing alloy, molybdenum  
containing alloy, tungsten containing alloy, alloy structure, alloy  
hot hardness, alloy oxidation resistance

ABSTRACT: The following alloys have been investigated to determine  
which ternary Cr-Fe-Mo or Cr-Fe-W alloy would provide the optimum  
combination of the heat resistance of Mo or W and the ductility  
of Cr; binary chromium-iron alloys containing 45-90% Cr, chromium-  
molybdenum alloys containing 10-30% Mo, chromium-tungsten alloys  
containing 10-30% W, and ternary alloys containing up to 55% Fe and

Card 1/3

L 41560-65  
ACCESSION NR: AT5008875

up to 30% Mo or W. In Cr-Fe-Mo alloys containing 45—50% Cr, additions of up to 6% Mo do not improve hot hardness or oxidation resistance. Increasing Mo content leads to the formation of a brittle  $\sigma$ -phase which has a very low oxidation resistance in air at 1100°C and lowers the oxidation resistance of the ternary Cr-Fe-Mo alloys in direct proportion to its content in the alloys. In Cr-Fe-W alloys, the single phase  $\sigma$ -region extends to about 32% W, but it tapers off at about 1275°C. At high temperature (1450°C), the single-phase region of  $\sigma$ -solid solution with a b.c.c. lattice increases substantially, so that all the investigated alloys, except for an alloy containing 40% Fe and 30% W, became single-phase alloys at a more or less high temperature. A single-phase structure and a satisfactory ductility is readily preserved in all but three of these alloys by oil quenching from 1450°C. Tungsten additions increase somewhat the melting temperature of Cr-Fe alloys, e.g., 30% W increases the solidus temperature by 100 and 150°C in alloys with 40 and 50% Fe, respectively. Tungsten also increases the hardness of Cr-Fe-W alloys at both room and high temperature and does not impair their oxidation resistance.

[MS]

Card ... 2/3

L 41560-65  
ACCESSION NR: AT5008875

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of  
Metal Physics, AN UkrSSR)

SUBMITTED: 13Mar64 ENCL: 00 SUB CODE: MM  
NO REF Sov: 003 OTHER: 007 ATD PRESS: 3234

*No*  
Card 3/3

SVECHNIKOV, V.N. [Sviechnykov, v.m.], akademik; KOBZENKO, G.F. [Kobzenko, H. F.]

Study of the system chromium - niobium - molybdenum. Dop. AN URSR  
no.4:492-498 '64. (MIRA 17:5)

1. Institut metallofiziki AN UkrSSR. 2. AN UkrSSR (for Svechnikov).

24-4/35-4/Du-4 LJP(c)/  
MATERIALS SCIENCE & ENGINEERING DEPT., THE OHIO STATE UNIVERSITY  
COLUMBUS, OHIO 43210-1174  
JULY 1974

Author: Kvetonkov, V. N. (Kvetonkov, V. N.)

Title: Chromium-molybdenum phase diagrams

Source: Sov. Phys. Doklady, v. 19, no. 1, 1964, p. 11-12.

TOPIC TAGS: chromium molybdenum alloy, chromium molybdenum system, system phase diagram, lattice parameter, alloy linear expansion, alloy phase composition, alloy hardness, solid solution

ABSTRACT: In view of discrepancies in available data on the solubility of components in the Cr-Mo system in the solid state Cr-Mo alloys were further investigated by means of dilatometric measurements and thermal methods.

The results of the present investigation are in agreement with the data obtained by other authors. The dilatometric curves of the alloys are in agreement with a slight positive deviation from Vegard's law. The X-ray diffraction patterns of the alloys show only one phase, this has a body-centered cubic lattice. A study of the coefficients of linear expansion ( $\alpha$ ), (Fig. 1), shows that  $\alpha$  for the alloys is intermediate between the coefficients for Cr and for Mo. The dilatometric curves

Card 1/4

L 21873-65  
ACCESSION NR: AP4025111

to not show any volumetric effects which would be associated with a change in phase composition. The heating-cooling curves (Fig. 3) for 5% Mo alloy shows only the endothermic effect associated with melting and crystallization of the alloy. This is illustrated in Fig. 4.

The microhardness of the Cr-Mo alloys at various temperatures is shown in Fig. 5. The data obtained in this study show that Cr and Mo above 300°C form a continuous series of solid solutions. Orig. art. has 4 figures.

ASSOCIATION: Institut metallofiziki Akademii nauk UkrSSR (Institute for the Physics of Metals, Academy of Sciences, UkrSSR)

SUBMITTED: 196ep63

ENCL: 02

SUB CODE: MM

NO REF Sov: 009

OTHER: 011

Card 2/4

L 21873-65

ACCESSION NR : AP4025111

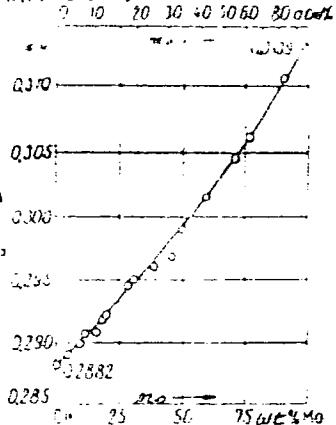


Fig. 1

## the Cr-Mo System

Change of lattice parameters of alloys

depending on composition. X-ray: a-Cr;

Dilatogram: a-Cr; b-alloy with 30% Mo.

ENCLOSURE 101

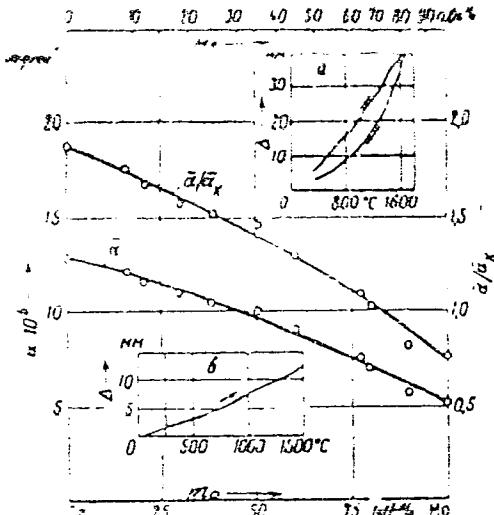


FIG. 2

Card 3/4

L 21873-65  
ACCESSION NR: AP4025111

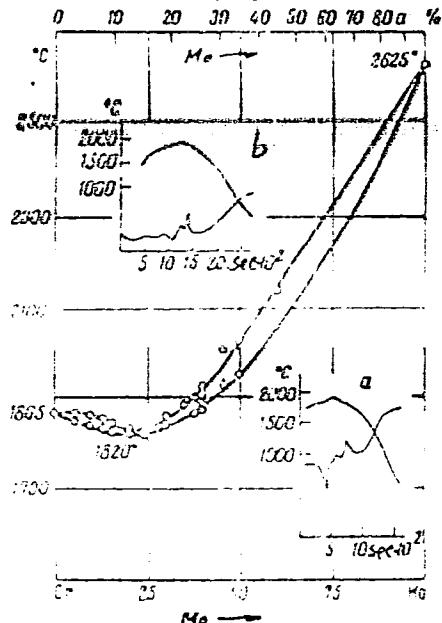


Fig. 3  
The Cr-Mo System.  
Phase Diagram.  
Thermogram a-alloy  
with 80 Mo; b-Cr

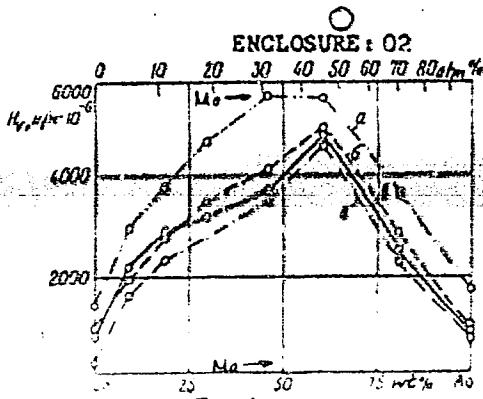


Fig. 4  
The Cr-Mo system. Change of  
hardness of alloys depending on their  
composition at constant temperatures:  
a-200, b-600, c-800, d-1000°C

Card 4/4

5 27112-65 CWT(m)/EPF(n)-2/EWP(t)/T/EWP(b) Pu-4 IJP(c) JD/JG

3 27112-65 170-15121

19601/64/000/019/0192/0195

24  
BT

AUTHOR: Svechnikov, V. N. (Academician AN UkrSSR); Kocherzhinskiy, Yu. A.; Latysheva, V. I.

TITLE: Phase diagrams of NbCr<sub>2</sub>-TiCr<sub>2</sub> and NbCr<sub>2</sub>-Ti systems

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 19, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 192-195

TOPIC TAGS: chromium titanium compound, chromium niobium compound, chromium niobium titanium system, intermetallic compound, intermetallic compound alloy, alloy phase diagram, alloy phase transformation,

ABSTRACT: The alloys of the NbCr<sub>2</sub>-TiCr<sub>2</sub> and NbCr<sub>2</sub>-Ti sections of the Cr-Nb-Ti system have been investigated. X-ray diffraction patterns showed that at 1150°C. all NbCr<sub>2</sub>-TiCr<sub>2</sub> alloys were single-phase alloys with the MgCu<sub>2</sub>-type lattice whose constant changes continuously from NbCr<sub>2</sub> to TiCr<sub>2</sub>. Thermal analysis indicated that all the high-temperature modifications of the compound form a continuous series. The high-temperature modification of the compound is a transformation in which the structure of the compound changes without a change in the high-temperature modifi-

Card 1/2

L 27412-65

ACCESSION NR: AT5005123

cation of Ti,  $\alpha$  is a solid solution based on the low-temperature modification of Ti, and  $\beta$  is a solid solution based on the high-temperature modification of  $\text{NbCr}_2$ . It proved to be difficult because the  $\gamma$ -solid solution does not decompose under ordinary conditions, but remains in the supercooled state indefinitely. To obtain equilibrium at temperatures lower than the eutectoid, alloys containing 50—100% Ti were annealed at 500°C for 500 hr. Dilatometric measurements definitely established that on heating, the eutectoid transformation in these alloys occurs in a wide temperature range. A significant solubility of Cr and Nb in the high-temperature modification of Ti, a eutectoid decomposition at 600°C and a Ti content in eutectoid of 80%, a very low solubility of Ti in  $\text{NbCr}_2$  and of Cr and Nb in the low-temperature modification of Ti, and the solidus and liquidus temperatures were the only facts positively established. But the existence and the temperature range of three-phase regions (solid + liquid, and solid + liquid + gas) in the high-temperature modification of  $\text{NbCr}_2$  and L (liquid) was only tentatively assumed. Orig. art. has. [MS] figures.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Physics of Metals,  
AN UkrSSR)

PERMITTING: 21192

ENCL: 00

SUB CODE: M4

V: RPP 30V: 202

OTHER: 000

ATD PRESS: 3192

END

L 30°19'-65 EPI n 100' K  
EWP(t) Pr-4/P-1 IAF(s) SJ, SC

ACCESSION NR: AT5011-125

EMP(t) P1-4710-2  
ACCESSION NR: AT5015-125

— 10 —

AUTHOR: G. P. SUBJECT: *[unclear]*  
of Ta system in the solid state

TITLE: Phase diagram of the Hf-Ta system in the solid state  
SOURCE: AN Ukr. SSSR. Institut metallofiziki. Shornik nauchnykh trudov, no. 19,  
1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals  
and phys. metal. metallurgy), 206-211

**ARTIFACT** - Six binary Hf-Ta alloys, containing from 1.5 to 95 wt% Ta, arc melted in a vacuum electric furnace in an argon atmosphere, were investigated. Thermal analysis revealed no signs of melting at temperatures up to 1800°C. However, an endothermal solid-state transformation was observed at 1000—1150°C. A supersaturated  $\beta_2$ -phase Ta solid solution of Ta in Hf, stable at room temperature, was obtained by annealing alloy powders from 1300 and 1500°C. The solubility of Hf in Ta was found to be 1.5, 15, and 30 wt% at 900, 1100, 1300, and 1500°C, respectively. The x-ray diffraction patterns of Ta and an alloy with 30% Ta showed only the  $\beta_2$ -

Card 1/3

L 39919-65

ACCESSION NR: AT5005125

2

phase lines (see Fig. 1 of the Enclosure). The diffraction pattern of Hf showed only the  $\alpha$ -phase lines. However, the patterns of all alloys with up to 7% Ta contained  $\alpha$ -phase lines but those of  $\alpha'$ -phase, a supersaturated solid solution of Ta in  $\alpha$ -Hf. The maximum solubility of Ta in  $\alpha$ -Hf was about 5 wt%. Alloys containing 1-2% Ta were enriched from 0.1 to 0.5 wt% Ta in the  $\alpha$ -phase. The remaining part of the alloy was enriched in Ta and contained  $\alpha'$ -phase. The structure of the  $\alpha$ -phase was determined by X-ray methods. The structure of the  $\alpha'$ -phase was determined by annealing at 1000°C for 10 hours.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of the Physics of Metals, AN UkrSSR)

SUBMITTED: 26Jun63

EXCL: 01

SUB CODE: MM

NO REF SOV: 002

OTHER: 016

ADRESS: 3191

Card 2/3

L 34106-65 EWP(s)/EWT(m)/EPF(n)-2/ENG(a)/EPR/T/E.P(t)/H2(b)/ZIA(c) Ps-1  
Pu-4 IJP(c) JD/JG/AT/WH S/2601/64/000/019/02/2/0218 41  
ACCESSION NR: A15005126 39

AUTHOR: Svechnikov, V. N. (Academician); Kocherzhinsky, Yu. A.; Kupko, L. M.

TITLE: Chromium - silicon phase diagram

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 19, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 212-218

TOPIC TAGS: phase diagram, differential thermal analysis, eutectic, chromium alloy, silicon solubility, solid solution

ABSTRACT: The authors compare the results of their investigation of the Cr - Si system with the results obtained by other authors. Electrolytically refined chromium and commercial or semiconductor silicon were subjected to X-ray and microstructural analysis and the presence of Cr<sub>3</sub>Si, Cr<sub>5</sub>Si<sub>3</sub>, CrSi and CrSi<sub>2</sub> was confirmed. Regions of Cr and Cr<sub>3</sub>Si-base solid solutions were also identified (see Fig. 1 of the Enclosure). CrSi<sub>2</sub>, CrSi, Cr<sub>5</sub>Si<sub>3</sub> and Si were found to have either a very narrow range of homogeneity or no solid solutions. A fusibility diagram was plotted from the results of differential thermal analysis. The fusion point of the silicon phase was 1-1170°C, CrSi<sub>2</sub> 1770-80°C, Cr<sub>5</sub>Si<sub>3</sub> 1720±5°C, Cr<sub>3</sub>Si

Card 1/3

L 34106-65

ACCESSION NR: AT5005126

1770±10 C. CrSi is characterized by incongruent fusibility. The temperature and the constituents of the points of invariant equilibrium were re-examined with the following results: eutectic melt  $\rightleftharpoons$  CrSi<sub>2</sub>+Si - 1355±10 C; 75-77% Si, eutectic melt  $\rightleftharpoons$  CrSi<sub>2</sub>-CrSi - 1445±10C; 42.5% Si, peri-eutectic CrSi<sub>2</sub>-Cr<sub>5</sub>Si<sub>3</sub> melt - 1435±10 C, 33% Si, eutectic melt  $\rightleftharpoons$  Cr<sub>3</sub>Si<sub>3</sub>-Cr<sub>2</sub>Si - 1680±10 C, 22-22.5% Si, eutectic melt  $\rightleftharpoons$  Cr<sub>3</sub>Si : solid solution on Cr-base (E) 1700±10 C ~ 9% Si. Orig. art. has: 12 figures and 1 formula.

ASSOCIATION: Institut metallofiziki AN Ukr.SSR (Metal physics institute, AN Ukr. SSR)

SUBMITTED: 26Jun63

ENCL: 01

SUB CODE: MM

NO REF Sov: 005

OTHER: 004

silicicle

Card 2/3

L 34106-65

ACCESSION NR: AT5005126

ENCLOSURE: 01

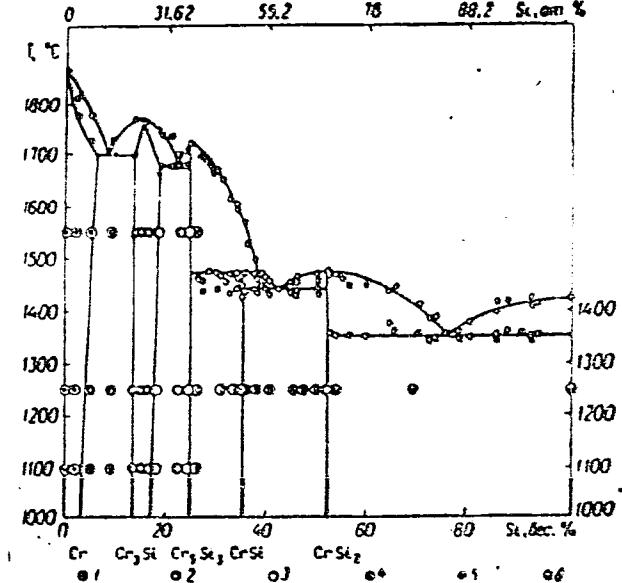


Figure 1. Cr-Si phase dia-  
gram: (1) Cr; (2)  $\text{Cr}_3\text{Si}$ ; (3)  
 $\text{Cr}_5\text{Si}_3$ ; (4)  $\text{CrSi}$ ; (5)  $\text{CrSi}_2$ ;  
(6) Si.

Card 3/3

L 41580-65 EAT(m)/EPF(c)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(b)/EWA(c) P1-4  
APPLICATION NR. AT3008874 ICP(c) JD/JG S/2601/64/000/020/C094'010777  
1/2

AUTHOR: Svechnikov, V. N. (Academician AN UkrSSR); Kocherzhinskij, S.I.  
V.V. Yarko, V.M.

TITLE: The structure and properties of alloys of the molybdenum-silicon-chromium system

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchaykh  
trudov, no. 20, 1964. Voprosy fiziki metallov i metallovedeniya  
(problems in the physics of metals and physical metallurgy), 94-107

TOPIC TAGS: molybdenum silicon chromium system, chromium containing  
molybdenum alloy, silicon containing molybdenum alloy, ternary alloy,  
alloy structure, alloy oxidation resistance

ABSTRACT: The phase composition, structure, and oxidation resistance  
of 250 binary and ternary alloys of the Mo-Si-Cr system have been  
investigated. On the basis of the results obtained, isothermal sec-  
tions were plotted for the Cr-Mo-Si system at 1500°C (within the lim-  
its of the Mo-Cr-Cr<sub>5</sub>Si<sub>3</sub>-Mo<sub>5</sub>Si<sub>3</sub> composition) and at 1300°C (within the  
limits of the Mo-Cr-CrSi<sub>2</sub>-MoSi<sub>2</sub> composition). Results of microscopic  
and x-ray diffraction pattern examination revealed a continuous

Card 1/3

L 41580-65  
ACCESSION NR: AT5008874

solubility of  $\text{Mo}_3\text{Si}$ -Cr<sub>3</sub>Si and  $\text{Mo}_5\text{Si}_3$ -Cr<sub>5</sub>Si<sub>3</sub> silicides, a break in the solubility of the CrSi<sub>2</sub> and MoSi<sub>2</sub> silicides, and the formation of a solid solution containing 17.5–27.5 wt% Mo and 26.5–28.0 wt% Si. A series of experiments containing 17.5–27.5 wt% Mo and 26.5–28.0 wt% Si were conducted for measuring oxidation resistance and electrical resistivity of solid oxides formed at 1300°C. Tests were made on alloys exposed sequentially. The oxidation-resistance tests were made on alloys exposed for 4 hr in air at 1300°C. In binary Cr-Mo alloys, additions of up to 30% Mo do not impair the oxidation resistance of chromium, and additions of up to 40% Cr do not improve the oxidation resistance of molybdenum. This shows that chromium can be alloyed with up to 30% Mo without impairing the oxidation resistance of the former, and that it is useless to attempt to improve the oxidation resistance of molybdenum by alloying it with less than 40% Cr. To protect molybdenum from oxidation by silicidation, the surface layer of binary Mo-Si alloys should contain not less than 30% Si. In contrast to  $\text{Mo}_3\text{Si}$  silicide,  $\text{Mo}_5\text{Si}_3$  and MoSi<sub>2</sub> silicides had a very high oxidation resistance. The substitution of Cr for Mo in the MoSi<sub>2</sub> compound, as well as substitution of the CrSi<sub>2</sub> phase for the MoSi<sub>2</sub> phase, continuously impairs the oxidation resistance of MoSi<sub>2</sub>-CrSi<sub>2</sub> alloys. Simultaneous addition of up to 30% Mo end up to 17.5% Si does not lower

Card 2/3

L 41580-65  
ACCESSION NR: AT5008874

the oxidation resistance of chromium in Cr-MoSi<sub>2</sub> alloys of the ternary system. Chromium alloys containing 30—35% Mo and 17.5—20.5% Si have a low oxidation resistance. Orig. art. has: 12 figures and 5 tables.

[MS]

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Metal Physics, AN UkrSSR)

SUBMITTED 25Jun63

ENCL: 00

SUB CODE: MM

NO REF Sov: 005

OTHER: 011

ATD PRESS: 3233

*rec*  
Card 3/3

REF ID: A654110012-0  
Sverchnikov, V. N. (Academician Akad. UkrSSR), Pan, V. M.; Korobeynikova,  
V. G.

AUTHOR: Sverchnikov, V. N. (Academician Akad. UkrSSR), Pan, V. M.; Korobeynikova,  
V. G.

TITLE: Phase diagram of the niobium-nickel system

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 19,  
1964. Voprosy fiziki metallov i metallovedeniya [Problems in the physics of metals  
and metallurgy]. Kiev, 1964.

KEY TERMS: niobium, nickel, niobium-nickel system, niobium-nickel alloy, alloy  
phase diagram, alloy composition, alloy structure, alloy hot hardness, alloy  
oxidation resistance

ABSTRACT: Forty-nine Nb-Ni alloys, containing 100—0% Nb, were melted from 99.5%  
pure Nb and 99.9% pure Ni in a nonconsumable tungsten-electrode arc furnace in an  
inert atmosphere. The composition of the alloys was determined by chemical analysis.  
The phase diagram of the Nb-Ni system was plotted on the basis of certain findings.  
The solubility of Ni in Nb was plotted (see Fig. 1) of the following temperatures: solubility of Ni in Nb was  
found to be about 4.7% at 100°C, 10.8% at 200°C, and 40% at 400°C, respectively). The  
maximum solubility of Nb in Ni was 1.5% at the same temperature (1285°C). The

Card 1/3

L 39932-65  
ACCESSION NR: AT5005124

$\delta$ -phase, an intermetallic Ni<sub>3</sub>Nb compound, has a very narrow (less than 1%) homogeneity region. The  $\gamma$ -phase, an Ni<sub>3</sub>Nb<sub>1-x</sub>-Nb solid solution, has a wide homogeneity region. The lattice constant of the  $\gamma$ -phase (an Ni-base solid solution) increases with increasing Nb content from 3.517 Å for pure Ni to 3.581 Å at 12% Nb. Further increase in Nb content does not change the lattice constant. The microhardness of the  $\gamma$ -phase increases with increasing Nb content. The microhardness of the  $\delta$ -phase, which is a solid solution of Nb in the matrix of Ni, increases only slightly with increasing Ni content. The hardness of Ni-base alloys increases with

Figures, tables, 3 figures and 16 tables.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Physics of Metals, AN UkrSSR)

SUBMITTED: 25 June 3 SUB CODE: MM

NO REF SOV: 006

三

SUB CODE: MM

NO REF SOV: 006

OTHER: 006

ATD PRESS: 3189

Card 2 / 3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001654110012-0

L 41180-65 EWP(m)/T/EWP(t)/EWP(b)/EWA(c) P1-4 IJP(c) RWH/JD/JG  
ACCESSION NR: AP4046381 S/0020/64/158/003/0668/0670 25  
23  
B

AUTHOR: Svechnikov, V. N. (Academician AN UkrSSR), Dmitriyeva, G. P.; Kobzenko,  
Sh. M. K.

TITLE: Diagram of phase equilibria of the chromium-osmium system

SOURCE: AN SSSR. Doklady\*, v. 158, no. 3, 1964, 668-670

TOPIC TAGS: phase equilibrium, chromium osmium system, eutectic alloy, eutectoid reaction, chromium alloy, osmium alloy

ABSTRACT: Alloys of Cr and Os were made in an arc furnace with a Cu, water-cooled hearth, in an argon medium. To eliminate possible dendrite liquation, the alloys were then subjected to homogenizing annealing at 1700°C for 55 hrs. The phase equilibria diagram shows the regions of the three phases: liquid, solid solution, and the eutectic reaction  $\text{Cr} + \text{Os} \rightarrow \text{L}$ . The eutectic reaction occurs at 1670 ± 15°C. The temperature of the peritectic reaction  $\text{L} \rightarrow \sigma$  is 975 ± 25°C. The compound  $\text{Cr}_3\text{Os}$  is obtained in accordance with the peritectoid reaction  $\text{A} + \text{L} \rightarrow \sigma$  at 1670 ± 15°C. Upon further cooling of the alloys, there is a further decomposition of the  $\sigma$ -phase in accordance with the eutectoid reaction  $\sigma \rightarrow \text{Cr}_3\text{Os} + \text{A}$  at 975 ± 25°C. At 1670°C, the  $\sigma$ -phase forms and decomposes under conditions of continuous heating and cooling. The compound  $\text{Cr}_3\text{Os}$  is obtained in accordance with the peritectoid reaction  $\text{A} + \text{L} \rightarrow \sigma$  at 1670 ± 15°C.

Card 1/8

L 41180-65

ACCESSION NR: AP4046381

2

with the peritectoid reaction  $\alpha + \gamma \rightarrow Cr_3Os$  after prolonged annealing at  $1540 \pm 40^{\circ}C$ . Hence, cast alloys of  $Cr_3Os$  consist of a solid solution of Os in chromium ( $\delta$ -phase). This same alloy, annealed at  $1700^{\circ}C$ , has the structure  $\alpha + \gamma$ , and after annealing at  $1500^{\circ}C$  and below,  $Cr_3Os$  forms. The  $Cr_3Os$  has a certain region of homogeneity. An increase in Os from 0 to 25 at. % increases microscopic hardness (from 150 to  $600 \text{ kg/mm}^2$ ) and the crystal lattice (from  $2885 \text{ \AA}$  to  $2930 \text{ \AA}$ ) of chromium.  $Cr_3Os$  has a hardness of  $600 \text{ kg/mm}^2$ , while the hardness of the  $\gamma$ -phase, depending on the composition, ranges from 1800 to  $2000 \text{ kg/mm}^2$ , and the hardness of the saturated  $\beta$ -phase is about  $800 \text{ kg/mm}^2$ . Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Institut metallofiziki Akademii Nauk UkrSSR (Institute of the Physics of Metals, Academy of Sciences, Ukr SSR)

SUBMITTED: 25Mar64

ENCL: 01

SUB CODE: MM

NO REF SOV: 000

OTHER: 003

Card 2/3

ALFINTSEVA, R.A.; DMITRIYEVA, G.P.; KOROBENNIKOVA, V.G.; PAN, V.M.;  
SVECHNIKOV, V.N.; SHURIN, A.K.

Investigating chromium-iron-molybdenum and chromium-iron-tungsten  
alloys. Sbor. nauch. trud. Inst. metallofiz. AN URSR no.20:108-124  
'64. (MIRA 18:5)

SVECHNIKOV, V.N., akademik, otv. red.; PALATNIK, L.S., doktor  
fiz.-matem. nauk, zam. otv. red.; KOVALENKO, L.D., red.

[Phase transformations in metals and alloys] Fazovye prevra-  
shcheniya v metallakh i splavakh. Kiev, Naukova dumka, 1965.  
174 p.

(MIRA 18:9)

1. AN Ukr.SSR (for Svechnikov).

L 32608-66 EWI(m)/I/EWP(t)/ETI IJP(c) JD/JG/GD  
ACC NR: AT6010589 SOURCE CODE: UR/0000/65/000/000/0147/0158

AUTHOR: Svechnikov, V. N. (Academician AN UkrSSR); Kobzenko, G. F.

47

ORG: Institute of Metal Physics, AN UkrSSR (Institut metallofiziki AN UkrSSR)

B+1

TITLE: Phase equilibrium diagram of the chromium-niobium-molybdenum system

SOURCE: AN UkrSSR. Fazovye prevrashcheniya v metallakh i splavakh (Phase transformations in metals and alloys). Kiev, Naukova dumka, 1965, 147-158

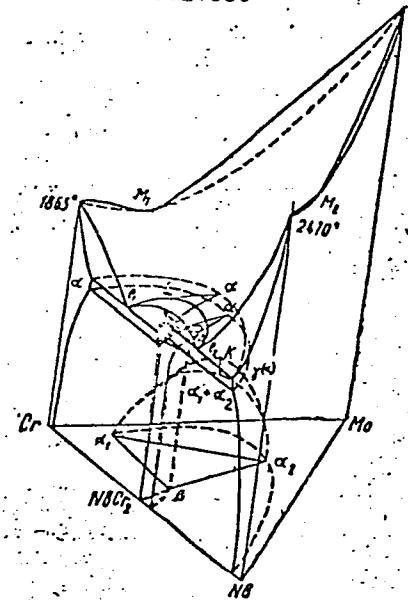
TOPIC TAGS: chromium alloy, niobium alloy, molybdenum alloy, alloy phase diagram,  
~~x ray analysis, thermal analysis~~

ABSTRACT: The Cr-Nb-Mo system was studied chiefly by differential thermal and x-ray structural analyses on 223 ternary and 78 binary alloys, both cast and annealed. Auxiliary methods employed were microstructural and dilatometric analyses and macro- and micro-hardness techniques. The results permitted the construction of a complete phase diagram of the Cr-Nb-Mo system under close-to-equilibrium conditions. The over-all appearance of the diagram (see Fig. 1) was determined by plotting binary diagrams, six isothermal diagrams, eight polythermal sections (five radial ones originating from NbCr<sub>2</sub>), plotted on the basis of experimental data, and five isothermal and twelve polythermal sections (one radial), plotted mainly by interpolation. Alloys of this system in the range from 1000°C to temperatures above the melting point of molybdenum can exist in thirteen phase states, four of which (L, L + α, L + ε, L + ε + α) are equilibrium systems containing a liquid and solid

Card 1/2

L 32008-56

ACC NR: AT6010589



phases and nine [ $\xi$ ,  $\xi + \alpha$ ,  $\alpha(\alpha_1, \alpha_2)$ ,  $\xi + \beta$ ,  $\xi + \beta + \alpha$ ,  $\alpha_1 + \alpha_2$ ,  $\alpha_1 + \alpha_3 + \beta$ ,  $\beta$ ,  $\alpha(\alpha_1, \alpha_2) + \beta$ ] containing only solid phases. The presence of mono-, di-, and trivariant equilibria was also established. Orig. art. has: 7 figures.

SUB CODE: 11 / SUBM DATE: 30Dec64 /  
ORIG REF: 008 / OTH REF: 002

Fig. 1. Over-all appearance of phase equilibrium diagram of the Cr-Nb-Mo system.

Card

2/2-90

E 31568-66 E/T(m)/T/ETI/E/P(t) IJP(c) JD/JG/GD

ACC NR: AT6010590 SOURCE CODE: UR/0000/65/000/000/0159/0162

AUTHOR: Svechnikov, V. N. (Academician AN UkrSSR); Shurin, A. K.; Dmitriyeva, G. P.

ORG: Institute of Metal Physics, AN UkrSSR (Institut metallofiziki AN UkrSSR)

32  
B+1

TITLE: The hafnium-chromium phase diagram

v v 4

SOURCE: AN UkrSSR. Fazovyye prevrashcheniya v metallakh i splavakh (Phase transformations in metals and alloys). Kiev, Naukova dumka, 1965, 159-162

TOPIC TAGS: hafnium alloy, chromium alloy, alloy phase diagram

ABSTRACT: The Hf-Cr system was investigated by metallographic and x-ray phase analysis of Hf-Cr alloys prepared in an arc furnace and subjected to various annealing treatments. Differential thermal analysis was used to determine the temperatures of the start and end of fusion. The phase equilibrium diagram obtained is shown in Fig. 1. The eutectoid equilibrium  $\beta \rightleftharpoons \alpha + \gamma$  was observed in Hf-rich alloys at  $1300 \pm 10^\circ\text{C}$ . Metallographic analysis of alloys annealed at 1500, 1200, and 1000°C showed that alloys containing from 70 to 99.9 at. % Cr consist of two phases, and those with 99.95 and 99.97 at. % Cr have a single-phase structure. Thus, the solubility of hafnium in chromium was found to be 0.05–0.1 at.%; it remains practically unchanged as the temperature is lowered. Metallographic analysis of specimens annealed at 1200 and 1000°C established that the solubility of chromium in hafnium does not exceed 2 at. % at these temperatures. The temperature of the polymorphous transformation in the compound  $\text{HfCr}_3$  was found to be  $1325 \pm 20^\circ\text{C}$ . Orig. art. has: 1 figure and 1 table.

Card

1/2

BRESTKIN, A.P.; IVANOVA, L.A.; SVECHNIKOVA, V.V.

Inhibition of acetylcholine hydrolysis rate by high concentrations of a substrate under the influence of acetylcholinesterase of bovine erythrocytes. Biokhimia 30 no.6  
1154-1159 N.D '65. (MIRA 19:1)

1. Kafedra neorganicheskoy khimii Sanitarno-gigiyenicheskogo meditsinskogo instituta, Leningrad. Submitted December 14, 1964.

ACC NR: AT6036277

SOURCE CODE: UR/0000/66/000/000/0053/0055

AUTHOR: Svechnikov, V. N.; Kocherzhinskiy, Yu. A.; Yupko, L. M.

ORG: Institute of Physics of Metals, AN UkrSSR (Institut metallofiziki, AN UkrSSR)

TITLE: Phase diagram of the CrSi<sub>2</sub>-MoSi<sub>2</sub> system

SOURCE: AN UkrSSR. Struktura metallicheskikh splavov (Structure of metal alloys).  
Kiev, Izd-vo Naukova dumka, 1966, 53-55

TOPIC TAGS: chromium disilicide alloy, molybdenum disilicide containing alloy,  
silicon, alloy phase diagram

ABSTRACT: A series of 43 chromium disilicide-molybdenum disilicide alloys have been investigated. The alloys were melted from sintered molybdenum, electrolytic chromium, and commercial or semiconducting silicon. Twenty-one of the alloys contained semiconducting silicon. On the basis of the data obtained by various methods of physicochemical analysis, a phase diagram of CrSi<sub>2</sub>-MoSi<sub>2</sub> system was plotted (see Fig. 1)! The diagram is of a peritectic type with peritectic tempera-

Card 1/2

SVECHNIKOV, Ye.A.

Increasing the strength of bearing assemblies. Trudy KTIPP  
(MIRA 15:6)  
no.24:168-173 '61.  
(Bearings (Machinery))

SVECHNIKOVA, E. L., Doc Med Sci -- (diss) "Problems of etiology and pathogenesis of anginas from data of investigations with patients and of experiments with animals." Alma-Ata, 1959. 15 pp; (Kuybyshev-skiy Medical Inst); 250 copies; price not given; (KL, 18-60, 155)

SVECHNIKOVA, E.L.

Duran-Reynals factor of staphylococci and streptococci agents of throat  
infections and its relation to invasiveness. Izv. AN Kazakh. SSR. Ser.med.  
i fiziol no.1:81-86 '59. (MIRA 13:1)  
(THROAT--DISEASES) (HYALURONIDASE)

SVECHNIKOVA, E.L.

Dynamics of the immunobiological changes in rabbits with streptococcal pharynx inflammation. Izv. AN Kazakh. SSR. Ser. med. i fiziol. no.2: 85-89 '59  
(MIRA 13:3)  
(IMMUNITY) (STREPTOCOCCAL INFECTIONS)

SVECHNIKOVA, E.L., kand.med.nauk

On the problem of the etiology of angina. Vest. otorin. 21 no.5:  
27-32 S-0 '59. (MIRA 13:1)

1. Iz kafedry mikrobiologii (zav. - prof. S.I. Boryu) Kuybyshevskogo  
meditsinskogo instituta.  
(TONSILLITIS, etiology)

SVECHNIKOVA, E.L.

Serological types of  $\beta$ -hemolytic streptococci isolated from angina patients. Izv. AN Kazakh. SSR. Ser. med. i fiziol. no. 2:41-45  
'60. (MIRA 13:10)

(DAGHESTAN—RESPIRATORY ORGANS—DISEASES)  
(STREPTOCOCCUS )

SVECHNIKOVA, E.L., kand.med.nauk

Characteristics of the microflora of the pharynx and tonsils in  
anginas. Trudy Kuib.med.inst. 11:148-153 '60. (MIRA 15:8)

1. Iz kafedry mikrobiologii (zav. kafedroy prof. S.I.Boryu) Kuyby-  
shevskogo meditisinskogo instituta.  
(TONSILS--DISEASES) (PHARYNX--MICROBIOLOGY)

SVECHNIKOVA, E.L., kand.med.nauk

Effect of sensibilization on the course of streptococcal inflammation of the pharynx in rabbits. Trudy Kuib.med.inst. 11:154-160 '60.  
(MIRA 15:8)

1. Iz kafedry mikrobiologii (zav. kafedroy - prof. S.I.Boryu)  
Kuybyshevskogo meditsinskogo instituta.  
(PHARYNX—DISEASES) (STREPTOCOCCAL INFECTIONS) (ALLERGY)

SVECHNIKOVA, E.L.

Experimental model of streptococcal angina in rabbits. Trudy Inst.  
mikrobiol. i virus. AN Kazakh. SSR 4:186-190 '61. (MIRA 14:4)  
(STREPTOCOCCAL INFECTIONS)

SVECHNIKOVA, E.L.

Study of the antagonistic properties of *Streptococcus acidilacti*.  
Trudy Inst. mikrobiol. i virus. AN Kazakh. SSR 4:191-195 '61.  
(MIRA 14:4)

(STREPTOCOCCUS)

SVECHNIKOVA, E.L.; SHIGAYEVA, M.Kh.

Variability of some micro-organisms under the influence of the mud from Lake Balpash-Sor. Report No.1: Variability in the case of immediate introduction of micro-organisms in mud sub-stratum. Trudy Inst. mikrobiol. i virus. AN Kazakh. SSR 5:  
90-97 '61. (MIRA 15:4)  
(Balpash-Sor, Lake—Baths, Moor and mud) (Micro-organisms)

SVECHNIKOVA, E.L.; SHIGAYEVA, M.Kh.

Variability of some micro-organisms under the influence of the mud from Lake Balpash-Sor. Report No. 2. Variability of micro-organisms by introducing them in mud substratum in cellophane bags. Trudy Inst. mikrobiol. i virus. AN Kazakh. SSR 5:98-103 '61. (MIRA 15:4) (Balpash-Sor, Lake--Baths, Moor and mud) (Micro-organisms)

SVECHNIKOVA, G.P.; SVECHNIKOVA, M.A.

~~Effect of photographic irradiation on the visible diameter and peripheral image brightness of the planetary disk. Nauch. biul. Len. un. no.33:8-12 '55.~~

(MLRA 10:4)

1. Kafedra obshchey astronomii.  
(Irradiation) (Planets)

82475

S/035/60/000/04/03/017  
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 4,  
p. 41, # 3163

3.1540

AUTHORS: Rubashev, B. M., Svechnikova, G. P.

TITLE: On Interaction of Hydrodynamic and Electromagnetic Factors in the  
Convective Zone of the Sun ✓

PERIODICAL: Solnechnyye dannyye, 1958 (1959), No. 11, pp. 58-59

TEXT: As was shown by Alfven and Lundquist, the electromagnetic factor proves to be important for the motion if  $H_0 L / \sqrt{\rho} \gg 1$ , where  $H$  is magnetic field intensity,  $\rho$  is electric conductivity,  $L$  is motion scale, and  $\rho$  is density. The authors hold that turbulent conductivity  $\sigma_T$  should be considered in the solar convective zone, rather than "gas kinetic" conductivity  $\sigma$ . Denoting magnetic viscosity by  $\nu_m = 1/\mu \sigma$  ( $\mu = 1$ ) and introducing the Reynolds magnetic number  $R_m = v L_1 / \nu_m$ , where  $v$  is motion velocity and  $L_1$  is characteristic length for the spectrum of turbulence, and magnetic turbulent viscosity  $\nu_m = R_m^2 \nu_m$ , the authors find that turbulent conductivity  $\sigma_T = 1/\nu_m' = 1/v L_1 = 10^{-12}$  ( $L_1 \sim 10^{10}$ ,  $v \sim 10^2$  cm/sec). ✓

Card 1/2

82475  
S/035/60/000/04/03/017  
A001/A001

On Interaction of Hydrodynamic and Electromagnetic Factors in the Convective Zone of the Sun

If this quantity is used for estimating the role of electromagnetic forces, it turns out that although the interaction of electromagnetic and hydrodynamic forces in the convective zone, sunspots proper excluding, takes place, but it is not so high as was held before. There are 5 references.

E. Ye. Dubov

Card 2/2

S/035/61/000/010/011/03<sup>4</sup>  
A001/A101

AUTHOR: Svechnikova, G.P.

TITLE: On simulation of large-scale movements on the Sun. Part I. Hydro-dynamical model of Belopol'skiy

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 53, abstract 10A388 ("Izv. Gl. astron. observ. v Pulkove", 1961, v. 22, no. 2, 108 - 120, Engl. summary)

TEXT: In 1958 experiments were begun at the Pulkovo Observatory on simulation of large-scale movements over the Sun's surface. Similar experiments were performed by Belopol'skiy in 1886-1890 on the basis of a Zhukovskiy's work. The model of Belopol'skiy consisted of a glass sphere fastened on the pulley of a centrifugal machine and filled up with a liquid containing suspended particles. At a uniform rotation, the entire mass of the liquid was gradually set in motion; then the sphere was carefully stopped and angular velocity began to decrease from the center to the surface. Symmetrically in both hemispheres arose circulation currents, the particles began to move from low latitudes to the poles, and at the 60-70° latitude the direction reversed. Belopol'skiy derived formulae of varia-

Card 1/3

S/035/61,000/010/011/034  
A001/A101

On simulation of large-scale movements ...

tion of angular and meridional velocities with the latitude, he identified the lower branch of the circulation ring with the motion of the sunspot formation zone and the upper branch with the proper motion of the sunspots themselves. He drew several conclusions on the proper motions of sunspots at low latitudes, and on the variation of angular velocity with the latitude and distance from the center. The author notes that inasmuch as conditions on the Sun and in the laboratory are different, the difference in criteria of similitude, especially numbers of Reynolds and Froude is very great. One should be careful in applying the conclusions obtained from the experiments to the Sun. However, the author has not succeeded in his experiment to improve the criteria of similitude. His experiment was similar to Belopol'skiy's one. A special attention was paid to the exact sphericity of the sphere and verticality of the rotation axis. The instants of transit of the particles across the meridians and parallels were fixed with a moving picture camera. 14 films with 200-400 frames each were taken. It was noticed that as soon as angular velocity begins to decrease to the surface, all the particles acquire additional motion along the meridian. Some of them move over latitudes from 0 to  $\pm 25^\circ$  and back, others from  $\pm 25$  to  $\pm 60^\circ$  and back. A couple of rings of circulation was observed in each hemisphere. At the  $\pm 25^\circ$  latitude the particles often stayed, moved for some time along the parallel, and

Card 2/3

On simulation of large-scale movements ...

S/035/61/C00/010/011/034  
A001/A101

then passed sometimes from one circulation ring into the other. If the particle crossed the equator, it returned soon back. The whole circulation ring was located in a very thin surface layer. Two maxima of meridional velocities were discovered: at latitudes of  $\pm 40\text{--}50^\circ$  and at low latitudes. Angular velocities are minimal at latitudes of  $\pm 30\text{--}40^\circ$ . Belopol'skiy failed to have observed circulation rings  $\pm 0\text{--}25^\circ$ , because his equipment permitted observations of motion only at latitudes exceeding  $15\text{--}20^\circ$ . It is assumed that several circulation rings arise in the Earth's atmosphere. The causes of circulation in the experiments conducted and in the Earth's atmosphere are different, however the existence of circulation belts in the Earth's atmosphere confirms that once having appeared, circulation is divided into individual belts by Coriolis forces. In conclusion the author remarks that there are observations which confirm the opposite directions of the proper motions of sunspots at latitudes from 0 to  $\pm 25^\circ$  and higher. In the future it is contemplated to take into account not only hydrodynamical forces but also magnetic ones. There are 8 references.

N. Shilova

[Abstracter's note: Complete translation]

Card 3/3

S/797/61/022/002/005/007  
E032/E414

AUTHOR: Svechnikova, G.P.

TITLE: A model of large-scale motions on the sun. Part I.  
The hydrodynamic model of Belopol'skiy

SOURCE: Pulkovo. Astronomicheskaya observatoriya. Izvestiya.  
v.22, no.2 (167). 1961. 108-120

TEXT: Experiments similar to those described by A.A.Belopol'skiy (Astronomicheskiye trudy. GITTL, M., 1954) were carried out in the Laboratoriya fiziki Solntsa GAO (Solar Physics Laboratory of GAO). The apparatus consists of a glass sphere (radius = 7.1 cm) which rotates about a vertical axis. The glass container is accurately spherical (to within  $1\mu$ ). Particular attention was paid to ensuring that the axis of rotation passed through the centre of the sphere. A set of parallels and meridians was drawn on the sphere and the latter was filled with a salt solution carrying a suspension of a mixture of wax and plasticine. The motion of the various particles in the suspension was photographed on a motion picture film. The whole system was brought into rotation by means of a motor and the rotation was continued for 8 to 10 min. The sphere was then very gradually brought to rest and the

Card 1/2 ✓

A model of large-scale ...

S/797/61/022/002/005/007  
E032/E414

residual motion of the liquid was photographed and the meridional and angular velocities were determined. It was found that in distinction to Belopol'skiy's results, there are two pairs of circulation rings, one of which lies at low latitudes (0 to  $\pm 25^\circ$ ) and the other at higher latitudes between  $\pm 25^\circ$  and  $\pm 60^\circ$ . The analogy between large-scale motion on the sun and atmospheric circulation on the one hand, and the above free circulation rings on the other, is examined. Further experiments will be concerned with the effect of magnetic forces on the system. There are 10 figures and 2 tables.

SUBMITTED: April 1960

Card 2/2

SVECHNIKOVA, K. V.

"Chronoximetric Investigations of the Nervous System of Primary-School-Age Children." Thesis for degree of Cand. Biological Sci. Sub 1 Jul 50, Inst of Physical Education and School Hygiene, Acad of Pedagogical Sci. RSFSR

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernaya Moskva, Jan-Dec 1950.

S V E C H N I K O V A , L . D .

PINIGIN, A.F.; VYBOROV, G.P.; PETUKHOVA, O.S.; ISTOMINA, T.I.; YUZHKOVA, R.N.;  
KORETS, B.V.; SVECHNIKOVA, L.D.; ZELIKMAN, Yu.Ya.; PADALIC, Z.F.;  
MIHALOVSKAYA, Ye.M.; KALMYKOVA, A.D.; KOSTERIN, V.V.; BEIKO, V.I.;  
KOSTENKO; MUSIKHINA

Distribution of brucellosis in Eastern Siberia and the Far East.  
Tez. i dokl.konf.Irk.gos.nauch.-issl.protivochum. inst.no.2:55-56  
'57. (MIRA 11:3)

(SIBERIA, EASTERN--BRUCELLOSIS)  
(SOVIET FAR EAST--BRUCELLOSIS)

SILINA, Ye.I.; ZLOKAZOVA, T.M.; ZOLOTAREVA, M.G. Prinimali uchastiye:  
YEVTYUTOV, A.A.; LEVINA, P.I.; CHEMODANOV, V.S.; SVECHNIKOVA, L.I.;  
KRIVONISHCHENKO, V.V.

Experimental factory testing of polyacrylamide flocculent as  
a substitute for meal in the production of alumina. TSvet. met.  
37 no.12:44-46 D '64 (MIRA 18:2)

1. Ural'skiy aluminijevyy zavod (for Yevtyutov, Levina,  
Chemodanov). 2. Ural'skiy nauchno-issledovatel'skiy i proyektnyy  
institut obogashcheniya i mekhanicheskoy obrabotki poleznykh is-  
kopayemykh (for Svechnikova, Krivonishchenko).

Svechnikova, M.A.

SVECHNIKOVA, G.P.; SVECHNIKOVA, M.A.

Effect of photographic irradiation on the visible diameter and  
peripheral image brightness of the planetary disk. Nauch. biul.  
(MLRA 10:4)  
Len. un. no.33:8-12 '55.

1. Kafedra obshchey astronomii.  
(Irradiation) (Planets)

SVYCHNIKOVA, N. V.

"Functional and Morphological Changes in the Kidneys and Ureters in  
Cancer of the Cervix." Cand Med Scin Kiev Medical Inst, Kiev, 1954.  
(RZhBiol, No 4, Feb 55) Sci

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations  
Defended at USSR Higher Educational Institutions, (14)

SVECHNIKOVA, N.V. [Sviechnikova, N.V.], kand.med.nauk; KRUPKO-BOL'SHOVA,  
Yu.O., kand.med.nauk

Skin test using progresterone and folliculin. Ped., akush. i gin.  
20 no.2:37-39 '58. (MIRA 13:1)

1. Kafedra akusherstva i ginekologii No.1 (zav. - prof. O.Yu. Lur'ye)  
Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta  
im. akad. A.A. Bogomol'tsa (direktor - dets. I.P. Alekseyenko).  
(HORMONES, SEX) (MENSTRUATION)

SVECHNIKOVA, N.V. (Kiyev)

Use of androgens in the climacteric. Probl.endok. i gorm 5 no.1:  
(MIRA 12:3)  
103-107 Ja-F '59.

1. Iz kafedry akusherstva i ginekologii No.1 (zav. - prof. A.Yu.  
Lur'ye) Kiyevskogo ordena Trudovogo Kransogo Znameni meditsinskogo  
instituta imeni akademika A.A. Bogomol'tsa (dir. - dots. I.P. Alekse-  
yenko) i Gorodskogo protivozobnogo dispensera (nauchnyy rukovoditel' -  
prof. A.K. Gorchakov).

(ANDROGENS, ther. use,  
in female climacteric, review (Rus))  
(CLIMACTERIC, FEMALE, compl.  
ther., androgens, review (Rus))

SVECHNIKOVA, N.V., kand.meditinskikh nauk

Outpatient treatment of women with pathological climacteric.  
Kaz. med. zhur. no. 4:70-72 Jl-Ag '60. (MIRA 13:8)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.Yu.  
Lur'ye) Kiyevskogo meditsinskogo instituta i Kiyevskogo  
protivozobnogo dispansera (nauchnyy rukovoditel' - prof.  
A.K. Gorchakov). (CLIMACTERIC)

SVECHNIKOVA, N.V., kand.med.nauk; SAYENKO-LYUBARSKAYA, V.F. (Kiyev)

Role of the adrenal gland in pathological manifestations of  
the climacteric. Vrach.delo no.6:615-617 Je '60.  
(MIRA 13:7)

1. Institut gerontologii i eksperimental'noy patologii AN  
SSSR, Kiyevskiy gorodskoy protivozobnyy dispanser i Institut  
fiziologii AN USSR im. akad. A.A. Bogomol'tsa.  
(ADRENAL GLANDS) (CLIMACTERIC)

ZLATMAN, A.F.; SVECHNIKOVA, N.V.

Hyperplasia of the endometrium and hyperestrogenism. Probl. endek,  
1 gorm. 6 no. 6:106-112 '60. (MIRA 14:2)  
(ENDOMETRIUM) (ESTROGENS)

SVECHNIKOVA, N.V., kand.med.nauk

Treatment of the climacteric [syndrome] with a severe course.  
Ped., akush. i gin. 22 no.5:49-51 '60. (MIRA 15:6)

1. Kafedra akusherstva i ginekologii No.1 (ispolnyayushchiy  
obyazannosti zaveduyushchego kafedroy - dotsent A.G. Logunova  
[Lohunova, A.H.]) Kiyevskogo ordena Trudovogo Krasnogo Znameni  
meditsinskogo instituta (direktor - dotsent I.P. Alekseyenko  
[Aleksieienko, I.P.]) i Gorodskoy endokrinologicheskoy dispanser  
(nauchnyy rukovoditel' - prof. O.K. Gorchakov [Horchakov, O.K.]  
[deceased]).

(CLIMACTERIC)

SVECHNIKOVA, Natal'ya Vasil'yevna, kand. med. nauk; SAYENKO-  
LYUBARSKAYA, Valentina Firsovna, kand. med. nauk;  
MALINOVSKAYA, Lyudmila Aleksandrovna; TIMOSHENKO, L.V.,  
red.; CHUCHUPAK, V.D., tekhn. red.

[Treatment of pathological climacteric] Lechenie patologiche-  
skogo klimaksa. Kiev, Gos.med.izd-vo USSR, 1961. 88 p.  
(MIRA 15:2)

(CLIMACTERIC)

(HORMONE THERAPY)

MARCHUK, P.D., prof.; SVECHNIKOVA, N.V., dotsent (Kiyev)

Fifth International Congress of Gerontologists. Vrach. delo no.2:  
144-146 F '61. (MIRA 14:3)  
(OLD AGE—CONGRESSES)

SVECHNIKOVA, N.V., kand.med.nauk (Kiyev)

Work of dispensaries (clinics) in the treatment of climacteric  
disorders. Sov. zdrav. 20 no.6:30-33 '61. (MIRA 14:7)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. N.S.Baksheyev)  
Kiyevskogo meditsinskogo instituta gerontologii i eksperimental'noy  
patologii AMN SSSR. (CLIMACTERIC)

FROL'KIS, V.V.; SVECHNIKOVA, N.V.; VERZHIKOVSKAYA, N.V.; VERKHRATSKIY, N.S.

Characteristics of the course of the general adaptation syndrome in old and young animals under the influence of neural and humoral stimulators. Fiziol.zhur. [Ukr] 9 no.3:330-337 My-Je '63.

(MIRA 18:1)

1. Laboratory of Physiology and Endocrinology of the Institute for Gerontology and Experimental Pathology of the Academy of Medical Sciences of the U.S.S.R., Kiyev.

PROKOF'YEVA, Ye.G., RZHEKHINA, N.I., SVECHNLYOVA, V.V.

Effect of fluorine ions on catalase and phosphatase activity of the blood [with summary in English]. Trudy ISGMI 44:335-341 '58  
(MIRA 11:12)

1. Kafedra neorganicheskoy khimii Leningradskogo sanitarno-gigienicheskogo meditsinskogo instituta (zav. kafedroy - prof. A.P. Brestkin).

(FLUORINE, eff.

on blood catalase & phosphatase activity in rabbits  
(Rus))

(PHOSPHATASES, in blood,  
same (Rus))

(CATALASE, in blood

eff, of fluorine ions in rabbits (Rus))

BRESTKIN, A.P.; IVANOVA, L.A.; SVECHNIKOVA, V.V.

Inactivation of cholinesterase in the horse serum during  
enzymatic hydrolysis of acetylcholine. Biokhimiia 28  
no.4:653-660 Jl-Ag '63. (MIRA 18:3)

1. Sanitarno-gigiyenicheskiy meditsinskiy institut, Leningrad.

SPESETKIN, A.P.; IVANOVA, L.A.; SVECHNIKOVA, V.V.

Mechanism of the inhibition by choline of the acetylcholine  
hydrolysis by equine serum cholinesterase. Biokhimia 30  
no.1&137-140 Ja-F '65. (MIRA 18:6)

L. Sanitarno-gigiyenicheskiy meditsinskiy institut, Leningrad.

SVECHNIKOV, Nikola S.

Geodesy; principles of instruments, equipment and methods of surveying.

QB301.\*\* 1951

1. Geodesy. 2. Surveying. I. Zivkovic, Il., jt. au.

SVECNIKOV, Nikola S.

Visa geodezija; zemljin elipsoid i triangulacija, terenski radovi. Beograd, Izd.  
Savezne geodetske uprave, 1953. (Higher geodesy: the earth ellipsoid and trian-  
gulation; field works. Vol. 1. illus., diagrs., graphs, tables)

SO: East European Accessions List, Vol 3, No 3, Aug 1954

S/035/62/000/010/088/128  
A001/A101

Determination of admissible misclosures in...

surface, sag and deflection on the tape, bends in the local relief. As an example of expression for calculating the longitudinal misclosure, the formula is presented:

$$l_{teor.} = \bar{l} + b \left( L - \frac{\bar{L}}{G} \right),$$

where  $\bar{l} = \frac{[l]}{n}$ , the average value of longitudinal misclosure in the given group of n traverses, G is the number of traverse groups,  $b = r \frac{\sigma_1}{\sigma_L}$ , r is correlation coefficient,

$$\sigma_1 = \sqrt{\frac{[\delta_1^2]}{G}}, \quad \delta_1 = 1 - \frac{[l]}{G}, \quad \sigma_L = \sqrt{\frac{[\delta_L^2]}{G}},$$

$$\delta_L = - \frac{[L]}{G},$$

Card 2/3

SVECNJAK, Drago

General organization of the commercial management in industries,  
with a special emphasis on chemical industry. I. Kemija u industriji  
ll no.4:199-203 '62.

1. Komerc. direktor Tvornice elektrotehnickih proizvoda, Zagreb.

SVECNJAK, Drago

General organization of the commercial management in industries,  
with a special emphasis on chemical industry. II. Kemija u  
industriji no.5:309-317 My '62.

I. Komerc. direktor, "TEP" - Tvorница elektrotehnickih proizvoda,  
Zagreb.

SVECNJAK, Drago

General organization of the commercial management in industries,  
with a special emphasis on chemical industry. Kemija u  
industriji ll no.6:347-364 Je '62.

1. Komerc. direktor, TEP - Tvornica elektrotehnickih proizvoda,  
Zagreb.

SVECMAS, Osijek

Organization of sale in industries, with a special emphasis on  
chemical industry. Kem ind 13 no.4:288-292 Ap '64

J. Business Manager, Factory of Electrotechnical Products, Zagreb.

SVEONJAK, Drago

Organization of sale service in industries, with special regard to chemical industry. Pt. 1. Kem ind 13 no.10; 781-786 O '64.

1. Commercial Director, Factory of Electrotechnical Products, Zagreb.

SVECNJAK, Drago

Organization of sale service in industries, with special regard  
to chemical industries. Pt. 2. Kem ind 13 no.11:876-884, 949  
N '64.

1. Commercial Director, Factory of Electrotechnical Products,  
Zagreb.

SVECOV, A. D.

AIRCRAFT ENGINE DESIGNER WHO CONCENTRATED ON DEVELOPING RADIAL POWER UNITS. DESIGNED M-71, AS-82, M-62, M-63 ENGINES

9. Monthly List of Russian Accessions, Library of Congress, ((~~xx~~" 1953, Uncl.

SVECOVA, Hana, CSc.

On optimum deformation of canonical domains minimizing the  
modulus of the derivative of conformal transformation.  
Aplikace mat 9 no.281-109 '64

1. Matematicky ustav, Ceskoslovenska akademie ved, Praha 1,  
Zitna 25.

SVECOVA, Hana

A contribution to the study of singular points in photo-elasticity.  
Aplikace mat 5 no.6:401-411 '60.

1. Author's address: Matematicky ustav, Ceskoslovenska akademie  
ved, Praha-Nove Mesto, Zitna 25.

SVECOVA, Hana

Generalization of the theorems on roots of analytic functions.  
Cas pro pes mat 85 no.4:418-438 '60.

1. Matematicky ustav, Ceskoslovenska akademie ved,  
Praha 2, Zitna 25.

SVECOVA, K. B.

"Division en couches dans le systeme acide sulfurique--eau--phenol". K. B. Svecova.  
(p. 69')

SO: Journal of General Chemistry (Zhurnal Obrshchey Khimii) 1938, Vol. 8, No. 8

SVECOVÁ M

Surface, shape, and size of sugar beets. K. Šandera and M. Švecová  
(*Listy Česk., 1954, 70, 52-53*).—Surface data, useful in calculating  
the respiration of beets in storage, are calculated by the equation:  
 $P = KV^t$ , where  $P$  = the average surface area,  $V$  = weight, and  
 $K$  = a constant (6.83—7.17) dependent on the ratio height : diameter  
(4—6). Tables of data from which the formula was derived are  
given.

SUG. IND. ABSTR. (P. G. A.)

SVECOVA, S.

Development of dwellings in Trnava near Laborce. p. 219.  
(Ceskoslovenska Ethnografie, Vol. 4, no. 3, 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957, Uncl.

SVECOVA, S.

The development of fireplaces in the area of Vihorlat. p.105.  
(CESKOSLOVENSKA ETHNOGRAFIE, Vol. 5, no. 2, 1957, Praha, Czechoslovakia.)

SO: Monghly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

SVED, A.

"Debate on the Lazarova Movement in the Hungarian Chemical Society",  
P. 32. (TOBBTELELES, Vol. 8, No. 8, Aug. 1954, Budapest, Hungary)

SO: Monthly List of East European Accessions, (FEAL), LC, Vol. 4,  
No. 1, Jan. 1955, Uncl.

SVED, A.

"Discussion about Operative Accounting", P. 35. (TOBBETEPHELES, Vol. 8,  
No. 1, Jan. 1954, Budapest, Hungary)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4,  
No. 1, Jan. 1955, Uncl.

SVED, A.

"Analyzing Statistics", P. 22 (TOBBTERMÉLES, Vol. 8, No. 8, Aug. 1954,  
Budapest, Hungary)

SO: Monthly List of East European Accessions, (ERAL), LC, Vol. 4,  
No. 1, Jan. 1955, Uncl.